

## Section 1-7: Three-Dimensional Figures

By the end of this lesson, you should be able to answer:

- How do you identify and name three-dimensional figures?
- How do you find surface area and volume?

Define the following:

1. Polyhedron
2. Face
3. Edge
4. Vertex
5. Prism
6. Base
7. Pyramid
8. Cylinder
9. Cone
10. Sphere
11. Regular Polyhedron
12. Platonic Solid
13. Surface Area
14. Volume

*Example 1:* Find the surface area and volume of a cone whose base diameter is 10 in, height is 12 in, and slant height is 13 in.

*Example 2:* Matt Mitarnowski wants to make a box that fits into a space that is 20 cm wide, 30 cm long, and 18 cm tall.

a. What is the amount of cardboard he would need to make this box?

b. What is the volume of the box Matt would make?

*Example 3:* Fuzzy Jeff is making a cylindrical can to hold his water collection. He currently has  $100 \text{ in}^3$  of water that he needs to store. Explain how you could determine three different possible dimensions for this can and provide your three sets of dimensions.

Problem Set:

"Nobody got anywhere in the world by simply being content."  
- Louis L'Amour